

Minutes of Meeting LOFAR Software

Date:	2007-10-30
Next meeting:	2007-11-06 11:00-12:00
	Paviljoen West Room
Present:	
Andre Gunst	Yes
Ronald Nijboer	Yes
Ruud Overeem	Yes
John Romein	No
Michael Wise	Yes

cc: Arthur Coolen, Jurjen Sluman, Pieter Donker, Chris Broekema, Martin Gels, Joris v. Zwieten, Marcel Loose, Adriaan Renting, Ger van Diepen, Max Avruch, Peter Boonstoppel, Michiel v. Haarlem, Jan Reitsma, Ger de Bruyn, Arno Schoenmaker, Hanno Holties, Corina Vogt, Jan Noordam, Joe Masters, Lars Bähren, Dion Kant, Johan Hamaker

Remarks previous minutes

- Ronald does not have a holiday from Friday to Friday but is only the Fridays off for the next 2 weeks
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Announcements

- The initial response on the NOVA 3 proposal was positive. However, the NOVA panel wants more details, milestones and timelines. The amount of money at stake is 2 MEuro. Part of this money covers definition of software, prototyping and testing software in the software plan.
- Michael goes to the UK to hopefully recruit developers
- Casey and Manta used the DAL library made by the USG. The tools have a low threshold to use. With those tools they made significant progress on data quality issues during the calibration workshop.
- The BSIK subsidy can be used as cofinancing for SNN
- Contracts are prepared for Tautumburg, Potsdam, UK, Nancay
- Workshop about a superstation in France will be held in mid-January (this is about combining LBAs with an analog beamformer they plan to develop)
- The applications in LOFAR will be more decoupled (astronomical, geo and agricultural) in sense that each of them will get partly unique fields. The consequence is that the network will be more hybrid, because the non-astronomical applications do not need much bandwidth. Those fields can be connected via low bandwidth connections like ADSL or GPRS.
- The midterm review report is released.
- Operations room is in operation.
- The repository move from CVS to Subversion will be 2-11-2007. Marcel Loose will announce this to the repository users by mail.

Action item overview

ID	Date submitted	Description	Owner	Planned date	Status
40	20070710	Define stappen plan for the pulsar mode.	Michael	20070917	On a hold
43	20071610	Define integral tests.	Michael/Andre	20071115	Open
45	20071030	Definition TBB control framework (so that the users can hook up their dedicated software in it)	Ruud	20071106	Open

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Progress

Stations (André):

Achieved since last meeting:

- 10 HBA front end units are ready to ship to Exloo (we wait for 6 more units to fill in one complete tile)
- Testenvironment: 8 data streams go to Groningen. However, if the BG/L does not ping the data is broadcasted which has consequences on the complete network (also the Exloo station access).
- Andreas comes next Friday to test the TBB boards and discuss about the accuracy in the trigger detection algorithm.
- A bug in the HBA beamforming control was found (the bits set were shifted by 2, so that the right delays were not set). A new test will be done on the test environment and the tile in the Astron garden.

Problems / current activities:

- In the reference coordinates of CS010 the longitude is swapped with the latitude
- The control of the HBA beamforming is in validation.

Next actions:

- Step 3

OLAP (John):

Achieved since last meeting:

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Problems / current activities:

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- The decision about using an input section will be made after the test environment is operational and the data goes directly into BG/L instead of via the input cluster.
- When one station stops sending data, OLAP gets confused (Chris).

- Post CS1: In a plot of RMS against frequency, one of the subbands shows a periodic variation. It is unknown what causes this, and this has to be investigated / solved.

Next actions:

- Step 3

Offline pipeline (Ronald):

Achieved since last meeting:

- The determination of the global bandpass shape is not a priority and is moved from Step 3 to Step 5.
- Joris and Pandey had the first profiling results. This was presented during the calibration workshop.
- Johan Hamaker has written a validation program to validate the beamshape model at station level.

Problems / current activities:

- Fitting in the UV plane is not tested and validated yet.
- Stefan de Koning has made a flagging Python script based on median clipping which seems to work satisfying. This script will be translated to C++ by Adriaan.
- Ger is trying to run the distributed imager on his own machine and after that on the offline cluster.
- Ger is optimizing the performance of the preprocessing pipeline.

Next actions:

- Continue with step 3 activities.

SAS + MAC + SHM (Ruud):

Achieved since last meeting:

- The flagger and imager activities in Step 3 will be moved to Step 4. Instead TBB related activities are added in Step 3.
- The alerting system was discussed with ETM. It appears that after some small changes we can already build this in and can do it ourselves.

Problems / current activities:

- PVSS databases do not work on CS031, CS032, CS033. This is under investigation. Now everything runs on PVSS 3.1. The PVSS 3.6 is under test and PVSS 3.7 came out yesterday. Question is when do we transfer to the next version. Probably due to the new hardware of CS031, CS032 and CS033 we have to move to a newer version of PVSS.
- TBB panels for Navigator is worked on.
- TBB control timeline depends on the algorithm when it is delivered, but the framework will be finished within one month.

- Ruud worked on the runtime metadata. Some existing software needs to be revitalized.
- Arthur and Jurjen are busy adopting the Navigator screens.

Next actions:

- Step 3.

User Software (Michael):

Achieved since last meeting:

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Problems / current activities:

- Joe started with the software to read the TBB data (necessary for Step 3)
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Next actions:

- Step 3.

Software integration

Achieved since last meeting:

- Tests have been defined and will be discussed next week.
- Marcel has finished the Wiki page with instructions for using the Subversion repository.
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Problems / current activities:

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Next actions:

- Step 2+: A test program will be initiated to verify the functioning of the LOFAR software in a more structured way. In OLAP it is possible to store the raw station data and feed this into the pipeline later on. This makes it possible to define a standard data set, which can be applied to the pipeline as soon as major software changes have been taken place.

Decisions

ID	Date submitted	Decision
02	20061220	Every Step will start with a Kick-off meeting, in which the complete software team participates.
03	20061220	The project team starts immediately with the preparations of the next CDR in order to preserve progress of the CS1 realization
04	20070116	This meeting will take place every week on Tuesday 11:00. The existing software

		team meeting with all developers will stop to exist.
05	20070130	Step 1 will be changed to 16 subbands instead of 32 subbands.
06	20070130	Step 2 will contain a multiple node BBS. 6 μ Stations/Station will be postponed. Instead of this, 32 subbands measurements will be realized.
07	20070206	Step 1 will support 160 MHz observations. The other steps will support 200 MHz as well.
08	20070424	Step 2 will support 16 subbands @ 200MHz and 24 MHz at 160 MHz
09	20070424	During the rest of step two, OLAP will only support observations during the weekend.
10	20070522	The number of subbands per Measurement Set is set to 6 or 8 default.
11	20070522	Scheduler activities will be preferably activated in Q4 2007.
12	20070522	Procure, three Local Control Units to accommodate 12 microstations in CS010 in a quick way.
13	20070529	Integrate version numbers in all software.
14	20070529	Distinguish the software between a production version and an engineering version (partly now already the case).
15	20070605	All developed software under CVS will be transferred to Subversion. The main reason for this is that Subversion supports the integration of version numbers in the executables. In this way you can always retrieve which software is used for a certain build. First the impact of the transfer will be investigated by Marcel.
16	20070619	Marcel Loose will be the librarian of the LOFAR software. The available time for this will be shared with his BBS work.
17	20070710	The known pulsar survey mode will be the next mode to support (not in its full extent but partly on-line and off-line).
18	20070710	The temporarily off-line part of the known pulsar mode pipeline will not be under control of SAS/MAC. This will be put under control of SAS/MAC as soon as that software is available in the on-line part of the system.
19	20070814	Joe Masters makes the routine to read in the TBB data.
20	20071002	Fault tolerance of the system (mainly OLAP) is put at the top of the priority list after closing the SAS-MAC and CEP integration.

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Table round

- John is on a holiday from Friday 26 October to 2 November
- Andre is on a holiday from Friday 2 November to Friday 9 November
- Ronald is off Friday 2 November and Friday 9 November
- Michael Wise is only in on next Tuesday and will chair the next meeting
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